

### **AMENDMENTS TO THE DRAWINGS**

The attached "Replacement Sheet" of drawings includes changes to Figure 4. The attached "Replacement Sheet," which includes Figure 4 replaces the original sheet including Figure 4.

Attachment: Replacement Sheet

The attached "New Sheet" of drawings includes the showing of the feature "indexer". The attached "New Sheet", includes Figure 2a.

Attachment: New Sheet

## **REMARKS**

Claims 1, 3-6, 8, 11, 13-19, 21, 23-26 and 28-30 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

The present disclosure relates an illustrative demonstration apparatus for indexing and retrieving scanned information from a whiteboard. A user using markers having erasable ink marks up the whiteboard. A digitizer generates digital information from the user-drawn marks that are located on the whiteboard. A selected portion of user drawn marks will be used to index the digital information for later retrieval. Once the digital information is generated, a selected portion of the digital information is associated with a header. The header is used for indexing and organizing the digital information. Additionally, the selected portion corresponds to a circled region having a circle that enclosed or partially enclosed the user-drawn marks. The indexer also includes an indexing method that includes extracting the circled region of the whiteboard notes using circled region extraction, constructing a header based at least in part on the circled region, and removing a circle from the circled region prior to associating the digital information. The header, also, is extracted exclusively from the digital information and based on at least in part on the selection portion of the user-drawn marks selected by the user. Remaining digital information is associated with the header. The apparatus also includes a plotter that allows a user to retrieve and redisplay the user-drawn marks redrawn by the plotter at an option of the user.

## **DRAWINGS**

The drawings stand objected to for certain informalities. Applicants have attached a new drawing for the Examiner's approval. In the "New Sheet," the feature "indexer" of original claims 1, 5, and 26 has been added to an apparatus of the present disclosure. The "New Sheet" includes no new matter. The relationship between the features in the "New Sheet" is disclosed in the specification at page 8 lines 10-18, and page 17, line 1 - page 18, line 3, in claim 1 and the abstract,. Thus, Applicants believe that the drawings are now in compliance under 37 CFR 1.83(a). Therefore, Applicants respectfully request that the Examiner remove this objection.

Figure 4 has been amended to included data in a circle in order to further enable one skilled in the art to use the invention. Thus, Applicants respectfully request that the Examiner remove this objection.

Additionally, claim 29 has been canceled; therefore, this objection is moot.

## **ABSTRACT**

The abstract stands objected to for certain informalities. Applicants have amended the abstract according to the Examiner's suggestions. Therefore, reconsideration and withdrawal of this objection are respectfully requested.

## **CLAIM OBJECTIONS**

Claims 1, 18 and 26 are objected to for certain informalities. Applicants have amended these claims according to the Examiner's suggestions. Therefore, reconsideration and withdrawal of these objections are respectfully requested.

### **REJECTION UNDER 35 U.S.C. § 112**

Claims 8, 13-15 and 28 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicants regard as the invention. This rejection is respectfully traversed.

Claims 8 and 13-15 have been amended to recite "claim 5" in line 1. This provides sufficient antecedent basis, since claim 7 was canceled. Additionally, claim 28 is now amended to include "said indexer" in line 1, such that antecedent basis is now provided from claim 26. Therefore, Applicants respectfully request that the Examiner withdraw and reconsider this rejection.

Claims 13-15 and 23-25 stand rejected under 35 U.S.C. § 112, first paragraph, as based on a disclosure which is not enabling. This rejection is respectfully traversed.

Claims 13 and 23 have been amended to include the features "there exists only one circle in each circle region" and "the circle is a concave curve." Therefore, Applicants respectfully request that the Examiner withdraw and reconsider this rejection.

Claims 1, 3-6, 8, 11, 13-15, 18, 19, 23-26 and 28-30 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. This rejection is respectfully traversed.

The specification is now describes the feature "an indexer" in such a way as to enable one skilled in the art to which it pertains, or to which it is most nearly connected, to make and/or use the invention. The new paragraphs do not disclose any new matter. Additional, a "New Drawing" has been added to further enable one skilled in the art to which it pertains, or with which it is mostly nearly connected, to make and use the

invention. Therefore, Applicants respectfully request that the Examiner withdraw and reconsider this rejection.

Regarding claims 5, 6, and 13-15 which contain the features “removing a circle from the circle region,” Applicants have amended Figure 4 to include data in the circle region to clarify further the disclosure. Applicants, however, did not amend the specification since page 13, line 22 through page 15, line 12 specifically states “the circle region” which has been previously introduced with antecedent basis by “a circle region” having user-drawn marks on page 8, lines 10 through 20. Additionally, the circle region with data is shown in Figures 2-3 and 5-6. Even more, a method of removing a circle is discussed using Figure 3 and 4. Figure 4 simply discloses how the circle is removed from the data by using a scan line. A person of ordinary skill would and could understand and appreciate this explanation of what the invention details. Therefore, Applicants respectfully request that the Examiner withdraw and reconsider this rejection.

Claims 26 and 28-30 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. This rejection is respectfully traversed.

Claim 26 has been amended to substitute the term “marking device” with “plotter” to provide clarity and align the claim with remaining sections of the specification as originally filed. The plotter is not a new matter and is different from the “digitizer.” The plotter generates at least one of said digital forms of said user marks selected through said browser screen onto said panel in said physical form. Page 17, lines 1 through 17. Therefore, Applicants respectfully request that the Examiner withdraw and remove this rejection.

### **REJECTION UNDER 35 U.S.C. § 102**

Claims 23-25 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Fang et al. (U.S. Pat. No. 6,859,555). This rejection is respectfully traversed.

At the outset, Applicants respectfully refer the Examiner to the Manual of Patent Examining Procedure (MPEP) (Section 2131) which specifically states, "[t]o anticipate a claim, the reference must teach each and every element of the claim." Section 2131 of the MPEP further states that "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1375, 1376 (Fed. Cir. 1987). Applicants respectfully suggest that the Examiner has not met this requirement and further respectfully suggests that the art cited by the Examiner fails to teach or suggest independent claim 23.

Claim 23 as amended includes a method for mark-up removal with an index and retrieval system related to whiteboards. The method includes moving a scan line in a plane that has an image having a marked-up region in a first direction. The marked-up region includes user-drawn data enclosed or partially enclosed by a mark-up. Next, the marked up region is scanned in a second direction. The second direction lies in a complementary fashion to the first direction in the plane of the image. While scanning the marked up region, non-background pixels within the scan line corresponding to mark-up of the marked-up region are detected. After detecting the non-background pixels, the non-background pixels are erased. Additionally, the mark-up is a user drawn circle, wherein there exists only one circle in each marked-up region, wherein the

user drawn circle is a concave curve that is at least one of closed and near closed, and wherein speckle noise has been removed from the marked-up region via preprocessing.

With respect to claim 23, Applicants respectfully submit that the art cited by the Examiner fails to disclose or teach a method for mark-up removal with an index and retrieval system related to whiteboards as stated in claim 23. Fang, the art cited by the Examiner, discloses a method for determining a circle in an image. The method assumes a circle to be detected in within a region of interest (ROI) having a center  $(x, y)$  that is located inside of the circle. A first pair of edge points can be extracted by scanning the image horizontally along an X-axis. By scanning the image vertically along a Y-axis, a second pair of edge points is extracted. Using each pair of edge points, an intersection of a first line and a second line extending perpendicular from a pair of midpoints of the first and second pair of edge point is determined. The radius of the circle is then determined using the intersection to any edge point of the circle. See Abstract and col. 4, line 49 – col. 5 line 40. Fang, however, fails to disclose, teach, or enable removing non-background pixels that correspond to the mark-ups. Additionally, Fang fails to disclose detecting a circle having data. At best, Fang only discloses how to detect a circle without data. See Abstract. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw this rejection.

Claim 25 is canceled; this rejection is now moot.

Likewise, the arguments made above regarding deficiencies in the art cited by the Examiner apply equally to Claim 24. In view of the foregoing, Applicants respectfully submit that Claim 23 defines over the art cited by the Examiner. Likewise, Claims 24 also define over the art cited by the Examiner.

### **REJECTION UNDER 35 U.S.C. § 103**

Claims 1, 3-6, 8, 11, 16-19, 21, 26 and 28-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Carau, Sr. (U.S. Pat. No. 6,318,825) in view of Weber et al. (U.S. Pat. No. 5,572,651). This rejection is respectfully traversed.

At the outset, Applicants respectfully refer the Examiner to the Manual of Patent Examining Procedure (MPEP) (Section 2143.03) which specifically states "[t]o establish *prima facie* obviousness of the claimed invention, all the claim limitations must be taught or suggested by prior art." Section 2143.03 of the MPEP further states that "all words in a claim must be considered in judging the patentability of that claim against the prior art." *In Re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA1970). Applicants respectfully suggest that the Examiner has not met this requirement and further respectfully suggests that the art cited by the Examiner fails to teach or suggest independent claims 1, 16, and 26.

Claim 1 includes an integrated apparatus for portraying and reproducing information on a surface. The system includes a whiteboard panel for temporary display of user-drawn marks made by markers dispensing erasable ink; a digitizer for generating digital information corresponding to the user-drawn marks; an indexer for associating the digital information with a header, wherein the header is extracted exclusively from the digital information and based at least in part on a selected portion of the user-drawn marks selected by the user; and a plotter for providing said whiteboard panel with redisplay capability, wherein the associated digital information is displayed on the whiteboard panel via the redisplay capability of said plotter as



machine-drawn marks at an option of the user, and wherein the plotter drawn marks reproduce the user-drawn marks from which the associated digital information was generated. Additionally, the indexer having an indexing method including extracting the circled region of the whiteboard notes using circled region extraction; constructing a header based at least in part on the circled region; and removing a circle from the circled region prior to associating the digital information as data.

The Examiner cites Carau as disclosing all the claimed elements in claim 1 except for an indexer, a header, and a browser. Additionally, Carau does not disclose removing a circle from the circled region prior to associating the digital information as data. The Examiner cites Weber as disclosing the indexer, a browser and a key object that makes a header obvious. Applicants respectfully disagree with the Examiner.

Weber relates generally to a table based user interface for retrieving and manipulating indices between data structures. See abstract. Weber allows a user with respect to a document not related to a recorded event to associate or retrieve relationships in different parts of the document. Col 3, lines 3 – 6. In Weber, a selected portion of digital information displayed on a display is circled by the user, by electronic means, and stored in an address assigned for key objects. Once the key object has been assigned an address and stored, it may be associated by the user to other data objects. The key object may remain circled in the display or may be copied into a special object display area. See Figure 6, 7, and 9. Unlike the Applicants' disclosure, Webster allows a user to create different data objects with the option of using key objects. Col 13, lines 11-18. Additionally, more than one key object may be associated with any data object, and a key object may be associated with more than one data

object. Col 13, lines 16-19. Thus, the key object is not “extracted exclusively from the digital information,” where the digital information is directly converted from user drawn notes as recited in claim 1. Furthermore, Weber does not disclose removing a circle from the circled region prior to associating the digital information as data, as cited in claim 1.

More importantly, Webster teaches away from using a header wherein the header is extracted from digital information created from user drawn notes such that remaining digital information is associated with the header. More importantly, this is completely different from what Weber tries to teach or disclose for a particular event. Col. 12, line 53 - col. 14, line 43. A benefit of using the disclosure of Webster is not to index the data for retrieval but for allowing a user to retrieve related or associated data based on a key identifier such that data objects can be created at any time and then later manipulated to associate with any key object of the user’s choice. Col. 3, lines 3 – 6. Even more, the key objects are used as icons to denote categories of other data objects. Col 3, lines 10 – 40. These icons may be applied to different portions of data objects to establish a relationship between the portions and may be used to retrieve associated data objects based on the relationships. This is counterproductive to using headers as disclosed in claim 1, where the header is exclusively retrieved from the user-drawn marks. Therefore, Weber does not teach or disclosed an indexer or browser as described in claim 1. Thus, the Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Claim 29 is canceled; therefore, this rejection is moot.

Based on the arguments, Applicants respectfully submit the arguments made above apply equally with respect to claims 1, 16, and 26. Likewise, the arguments made above regarding deficiencies in the art cited by the Examiner apply equally to Claims 2-6, 8, 11, 13-15, 17-19 and 28-30. In view of the foregoing, Applicants respectfully submit that Claims 1, 16, and 26 define over the art cited by the Examiner. Likewise, Claims 2-6, 8, 11, 13-15, 17-19 and 28-30 also define over the art cited by the Examiner.

Claims 13-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Carau, Sr. (U.S. Pat. No. 6,318,825) in view of Weber et al. (U.S. Pat. No. 5,572,651) and in further view of Fang.

Claim 13 is dependent on claim 5; and claims 14 and 15 are dependent on claim 13. For at least the same reasons given for claim 1, claims 13-15 are patentable over the cited art. Therefore, Applicants respectfully request that the Examiner withdraw and reconsider this rejection.

Additionally, Fang, the art cited by the Examiner, discloses a method for determining a circle in an image. The method assumes a circle to be detected in within a region of interest (ROI) having a center (x, y) that is located inside of the circle. A first pair of edge points can be extracted by scanning the image horizontally along an X-axis. By scanning the image vertically along a Y-axis, a second pair of edge points is extracted. Using each pair of edge points, an intersection of a first line and a second line extending perpendicular from a pair of midpoints of the first and second pair of edge point is determined. The radius of the circle is then determined using the intersection to any edge point of the circle. See Abstract and col. 4, line 49 – col. 5 line 40. Fang,

however, fails to disclose, teach, or enable removing non-background pixels that correspond to the mark-ups. Even more, Fang only discloses the detecting of a circle not the removing of a circle as described in this claim. Additionally, Fang does not disclose how to detect a circle having data included in the circle. Fang only discloses how to detect a circle without any data. Thus, Fang does not disclose the elements as recited in claim 13. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw this rejection.

Claims 14 and 15 are dependant on claim 13. Thus, claims 14 and 15 include patentable subject matter for at least the same reasons as stated for claim 13. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw this rejection.

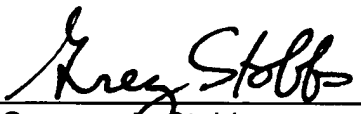
#### **CONCLUSION**

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and

favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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